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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,322

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Takashi Inoue

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EXAMINER

MUKKAMALA, SANDEEP

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,322	Applicant(s) INOUE ET AL.	
	Examiner SANDEEP MUKKAMALA	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 24-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23, 30-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/24/06, 6/12/06, 5/17/07</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-23 & 30-35, drawn to Method.

Group II, claim(s) 24-29, drawn to Product.

2. The inventions listed as Groups I & II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The common technical feature is steam extraction of tasty materials. This element cannot be special technical feature under PCT rule 13.2 because it is shown in the prior art. US 5417993 (Takano) teaches steam extraction of tasty materials. Therefore since the limitation of groups 1 and 2 fail to define a contribution over US 5417993 they fail to contribute a special technical feature and hence there is a lack of unity between the cited claims.

3. During a telephone conversation with J. Rodman Steele Jr. on 11/26/2008 a provisional election was made without traverse to prosecute the invention of I, claims 1-23. Affirmation of this election must be made by applicant in replying to this Office action. Claims 24-29 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicants' filed a preliminary amendment on 12/30/2008 which added new claims 30-35. It is noted that these claims have been added to elected group I.

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5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3 -7, 17 -18 are rejected under 35 U.S.C. 102(b) as being anticipated by Migdol et al. (US 3421901).

Regarding claim 1, 3 -7 Migdol teaches a method for extracting volatile components of roasted and ground coffee by steam extraction, where the vapors are released under atmospheric conditions at temperatures of above 180 F and the aromatic vapors collected (Abstract). Vapors exit from the bed of coffee at a temperature of between 180 to 230 F (110 C) (Col. 2 line 26). As such this would be considered superheated steam as the steam is at a higher temperature than its boiling point.

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Regarding claim 17 -18, Migdol teaches as discussed above. Migdol also teaches a method where the said extract obtained from the steamed coffee is cooled by freeze drying (Abstract, Claim2).

8. Claims 1 -5, 7 -8, 13 -14 are rejected under 35 U.S.C. 102(b) as being anticipated by Takano et al. (US 5417993).

Regarding claim 1, Takano teaches a method of extracting volatile components obtained by steam extraction and recovering the steam with the tasty material (Col. 3 line 64-Col.4, line 7).

Regarding claim 2, Takano teaches the extraction of the volatile components where the steam is saturated water vapor (Col. 6 line 25).

Regarding claim 3 -5, Takano teaches heating vapor under normal pressure (col.6 line 20), to about 80 – 120 C (Col.6 line 7). As such this would be considered superheated steam as the steam is at a higher temperature than its boiling point.

Regarding claim 7 -8, Takano teaches the extraction of the volatile components includes roasted coffee beans from Arabica (Col.5 line 40).

Regarding claim 13- 14, Takano teaches roasting coffee beans either using an electric sample roaster or by using a gas –grill type until the desired L-value is achieved (Col. 5 line 25). The L-value of coffee beans is within range of from 15 to 30 (Col. 5 line 31).

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9. Claims 1, 7 -8, 14- 16 are rejected under 35 U.S.C. 102(a) as being anticipated over Kazuyuki et al. (JP 2003-033137).

Regarding claims 1, 7 -8, 14 -16, Kazuyuki teaches extracting volatile components by steam distillation and obtaining the volatile components after steaming (abstract, 0030, 0035, and 0037). Kazuyuki teaches the volatile components can be extracted from coffee, tea, green tea, or oolong tea and where the coffee is Colombian (Coffea Arabica) (abstract, 0030, 0037). Kazuyuki also teaches that the L-value of the roasted coffee beans is 15 to 33 (0030, 0031 and 0035).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 6, 9 -12, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (US 5417993) in view of Maki et al. (US 5681607) and Morrison, Jr. et al. (US 4486453).

Regarding claims 6, 9- 11, Takano teaches as discussed above. Takano does not appear to explicitly disclose extracting volatile components where the superheated steam is higher than 140 C but no higher than 500 C and that raw coffee beans are roasted using superheated steam where the steam is set to a temperature higher than 107 C but no higher than 500 C. However, Maki discloses roasting green coffee beans with superheated steam where the steam is set to a temperature from 251 C to 400 C (Col. 2 line 16) and can also be used for extracting volatile components as taught by Takano. Takano and Maki are analogous art because they are from the same field of endeavor, using superheated steam on coffee beans. At the time of the invention, it

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would have been obvious to one of ordinary skill in the art, having the teachings of Takano and Maki before him or her, to modify Takano's method to include roasting raw coffee beans using superheated steam because it reduced the undesirable flavor and markedly increased a fragrant nutty flavor (Maki Col. 9 line 65).

Regarding claim 12, Takano and Maki teach as discussed above. Takano and Maki do not appear to explicitly disclose the amount of super heated steam used at 1 to 30 kg/h per 1 kg of raw coffee beans. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the amount of super heated steam used at 1 to 30 kg/h per 1 kg of raw coffee beans for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 19 -20, Takano teaches as discussed above. Takano does not appear to explicitly disclose the exact amount of steam flow rate and the time. However Morrison teaches a steam flow rate at about 0.14 to about 0.32 lbs/hr per lbs dry beans for about 7 minutes (Col.6 line 31). Takano and Morrison are analogous art because they are from the same field of endeavor, using steam on coffee beans. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Takano and Morrison before him or her, to modify Takano's method to include specific steam flow rate and time of Morrison because it reduces the residence

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time of the coffee beans in conditions of high temperature and high moisture, thereby preventing negative flavor changes in the resultant coffee products (Morrison, Abstract).

14. Claims 21- 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (US 5417993) in view of Kino et al. (US 6231907).

Regarding claim 21 -23, Takano teaches as discussed above. Takano does not appear to explicitly disclose the extraction of coffee in a sealed container carried out in an inert gas atmosphere using deoxygenated water. However, Kino teaches the extraction of coffee in a container that is seamed and sealed in an inert gas atmosphere using deoxygenated water (Col. 5 line 5, line 15, line 22, line 65). Although the container is seamed and sealed after the brewing and extraction, it nonetheless is done in an inert gas atmosphere. It would not have mattered whether it was sealed before the extraction or thereafter because the resultant of the process contains components free of oxygen (Col. 6 line 2). Takano and Kino are analogous art because they are from the same field of endeavor, steam extraction of coffee aromas. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Takano and Kino before him or her, to modify Takano's method to include the extraction in a sealed container carried out in an inert gas atmosphere using deoxygenated water of Kino because a high quality of coffee can be obtained (Kino, Col. 5 line 38). Coffee obtained in this way is of high quality and has a fresh aroma, and the high quality is maintained

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for a long period of time. In addition, if heated or cooled to be drunk, the high quality coffee is not changed at all and is extremely good (Kino, Col. 5 line 46).

15. Claims 30- 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (US 5417993) in view of Migdol et al. (US 3421901) further in view of Kazuyuki et al. (JP 2003-033137).

Regarding claim 30, Takano teaches as discussed above. Takano does not appear to explicitly disclose mixing the aqueous extract and the volatile component. However, Migdol teaches combining coffee oil and steam volatiles together and added to liquid extract (Col.2 line 62, Col.3 line 25). Takano and Migdol are analogous art because they are from the same field of endeavor, steam extraction of coffee aromas. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Takano and Migdol before him or her, to modify Takano's method to include Migdol's method of combining coffee oil and steam volatiles together and add to liquid extract because it was unexpectedly discovered that when the steam volatile flavor is combined with coffee oil, the two coffee components act synergistically and combination obtained produces a flavor effect which is superior to the expected additive effect (Migdol, Col. 2 line 66, Col. 4 line 29, Col. 7 line 51).

Regarding claim 31, Takano and Migdol teach as discussed above. Takano also teaches the food or drink is coffee drinks, other foods and luxury foods, therefore, this

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coffee aroma component can improve and enrich the qualities of the aroma (Takano, abstract).

Regarding claim 32 –33, Takano and Migdol teach as discussed above. Kazuyuki teaches the volatile components can be extracted from coffee, tea, green tea, or oolong tea (abstract). Takano, Migdol and Kazuyuki are analogous art because they are from the same field of endeavor, steam extraction of coffee/tea aromas. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Takano, Migdol and Kazuyuki before him or her, to modify Takano's and Migdol's method as discussed above to include Kazuyuki's extraction of volatile components from tea because tea and coffee are a common beverage hence extracting tea volatile components for instant tea or tea drink.

Regarding claim 34 -35, Takano teaches the extraction of the volatile components includes roasted coffee beans from Arabica (Col.5 line 40).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANDEEP MUKKAMALA whose telephone number is (571)270-7043. The examiner can normally be reached on Mon - Thurs 8:00 AM - 6:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SANDEEP MUKKAMALA/
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794